

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): An inverter device comprising:
an inverter circuit including
a bridge circuit connected between a positive electrode and a negative electrode of a direct-current power supply, the bridge circuit including
an upper arm unit including an upper-arm switching element and an upper arm diode connected in reverse-parallel to each other; and
a lower arm unit including a lower-arm switching element and a lower arm diode connected in reverse-parallel to each other, the lower arm unit being series connected with the upper arm unit;
an inverter driving unit including a high-withstand-voltage IC that drives switching elements in the upper arm unit and the lower-arm unit, the high-withstand-voltage IC having a first terminal for supplying a reference voltage to the switching element in the lower arm unit and a second terminal for supplying a high-voltage to the switching element in the upper arm unit; and
a clamp unit that clamps a potential difference between the first terminal and the second terminal, wherein the second terminal is not directly connected to the upper arm unit.
2. (original): The inverter device according to claim 1, wherein the inverter circuit is a single-phase inverter circuit.

3. (original): The inverter device according to claim 2, wherein the clamp unit is a clamp diode.
4. (previously presented): The inverter device according to claim 3, wherein a current rating of the clamp diode is smaller than a current rating of the lower arm diode.
5. (previously presented): The inverter device according to claim 3, wherein the clamp diode is provided outside of the high-withstand-voltage IC.
6. (original): The inverter device according to claim 1, wherein the inverter circuit is a three-phase inverter circuit.
7. (previously presented): The inverter device according to claim 6, wherein the clamp unit includes a plurality of clamp diodes each corresponding to each phase of the three-phase inverter circuit.
- 8 – 9. *(canceled)*.
10. (previously presented): The inverter device according to claim 7, wherein each of the clamp diodes is connected between the first terminal and each of the second terminals.
11. (previously presented): The inverter device according to claim 7, wherein the high-withstand-voltage IC having a third terminal for supplying a high-voltage to the switching element in the lower arm unit, and fourth terminals each for supplying a high-voltage to a switching element in each phase, and the clamp diodes include
a first clamp diode connected between the first terminal and the third terminal; and

second clamp diodes each connected between the third terminal and each of the fourth terminals;

12. (new): An inverter device comprising:
an inverter circuit comprising

an upper arm unit including an upper-arm switching element and an upper arm diode connected in reverse-parallel to each other; and

a lower arm unit including a lower-arm switching element and a lower arm diode connected in reverse-parallel to each other, the lower arm unit being series connected with the upper arm unit;

an inverter driving unit including an integrated circuit that drives the upper-arm and the lower-arm switching elements, the integrated circuit comprising a first terminal for supplying a reference voltage to the lower-arm switching element and a second terminal connected to a driver circuit that drives the upper-arm switching element; and

a clamp unit that clamps a potential difference between the first terminal and the second terminal, wherein the second terminal is not directly connected to the upper arm unit.